Amendment To The Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended). A superconducting magnet comprising:

a plurality of superconducting coils, said coils being impregnated with epoxy and nested within each other, an innermost one of the nested coils having a bore therethrough defining a bore width of the magnet, said bore width being greater than approximately 100 millimeters, said nested coils being electrically connected in series and cooled to an operating temperature less than approximately 4 degrees K; and

an integral external reinforcement on at least one of the superconducting coils, said reinforcement being impregnated in the epoxy together with the reinforced at least one of the superconducting coils for providing structural reinforcement to the magnet in both radial and axial directions.

Claim 2 (original): The magnet of claim 1 wherein at least one of the superconducting coils includes a wind and react conductor, said wind and react conductor being heat treated prior to impregnating the at least one of the superconducting coils with epoxy.

Claim 3 (currently amended): The magnet of claim 2 ~~further comprising an~~ wherein the external reinforcement is on the wind and react conductor, said external reinforcement being applied prior to heat treating the wind and react conductor.

Claim 4 (currently amended): The magnet of claim 1 ~~further comprising an external reinforcement on at least one of the superconducting coils, said~~ wherein the external

reinforcement ~~being~~ is applied prior to impregnating the at least one of the superconducting coils to be reinforced with epoxy.

Claim 5 (currently amended): The magnet of ~~claim 4~~ claim 1 wherein the external reinforcement includes a reinforcement wire wound around the at least one of the superconducting coils to be reinforced.

Claim 6 (original): The magnet of claim 5 wherein the reinforcement wire is electrically insulated with a high temperature insulation.

Claim 7 (original): The magnet of claim 6 wherein the high temperature insulation is a glass fiber braid.

Claim 8 (original): The magnet of claim 5 wherein the reinforcement wire is electrically insulated to prevent electrical short circuits of the reinforcement wire to itself.

Claim 9 (original): The magnet of claim 5 wherein the reinforcement wire is steel.

Claim 10 (original): The magnet of claim 5 wherein the reinforcement wire includes steel and copper.

Claim 11 (original): The magnet of claim 4 wherein the external reinforcement has a pair of leads extending therefrom connected through a diode.

Claim 12 (original): The magnet of claim 1 further comprising an active protection circuit for protecting one or more of the coils in response to a quench in the magnet, said protection circuit including at least one heater element for heating the protected coil.

Claim 13 (original): The magnet of claim 12 wherein the heater element comprises a substantially flat metallic braid.

Claim 14 (original): The magnet of claim 13 wherein the braid comprises a resistive metal.

Claim 15 (original): The magnet of claim 13 wherein the braid is approximately 0.1 mm or less.

Claim 16 (original): The magnet of claim 13 wherein the braid is generally U-shaped.

Claim 17 (original): The magnet of claim 12 wherein the heater element is positioned in thermal contact with the protected coil prior to impregnating the coil with epoxy.

Claim 18 (original): The magnet of claim 12 wherein at least one of the superconducting coils includes a wind and react conductor, said wind and react conductor being heat treated prior to impregnating the at least one of the superconducting coils with epoxy, and wherein the heater element is positioned in thermal contact with the protected coil prior to heat treating the wind and react conductor.

Claim 19 (original): The magnet of claim 1 wherein the superconducting coils have lead wires extending therefrom and further comprising a lead support for supporting each of the lead wires with epoxy adjacent an end of the respective coil.

Claim 20 (currently amended): ~~The magnet of claim 19~~ A superconducting magnet comprising:

a plurality of superconducting coils having lead wires extending therefrom, said coils being impregnated with epoxy and nested within each other, an innermost one of the nested coils having a bore therethrough defining a bore width of the magnet, said bore width being greater than approximately 100 millimeters, said nested coils being electrically connected in series and cooled to an operating temperature less than approximately 4 degrees K; and

a lead support for supporting each of the lead wires with epoxy adjacent an end of the respective coil, ~~wherein~~ the lead support ~~is~~ being generally frustoconical in shape and integrally formed with the epoxy impregnating the respective coil using a mold placed around the lead wire adjacent the end of the respective coil prior to impregnating the coils with epoxy.

Claim 21 (original): The magnet of claim 20 wherein the lead support is an epoxy composite material.

Claim 22 (currently amended): ~~The magnet of claim 19~~ A superconducting magnet comprising:

a plurality of superconducting coils having lead wires extending therefrom, said coils being impregnated with epoxy and nested within each other, an innermost one of the nested coils having a bore therethrough defining a bore width of the magnet, said bore width being greater than approximately 100 millimeters, said nested coils being electrically connected in series and cooled to an operating temperature less than approximately 4 degrees K; and

a lead support for supporting each of the lead wires with epoxy adjacent an end of the respective coil, ~~wherein~~ the lead support ~~includes~~ including a stabilizing member securing a portion of at least one of the lead wires.

Claim 23 (currently amended): A superconducting magnet comprising a plurality of superconducting coils, said coils being impregnated with epoxy and nested within each other, said nested coils being electrically connected in series and cooled to an operating temperature less than approximately 4 degrees K; and

an integral external reinforcement on at least one of the coils, said external reinforcement being ~~applied prior to impregnating the coil to be reinforced with epoxy~~ impregnated in the epoxy together with the reinforced at least one of the coils for providing structural reinforcement to the magnet in both radial and axial directions.

Claims 24 and 25 (canceled).